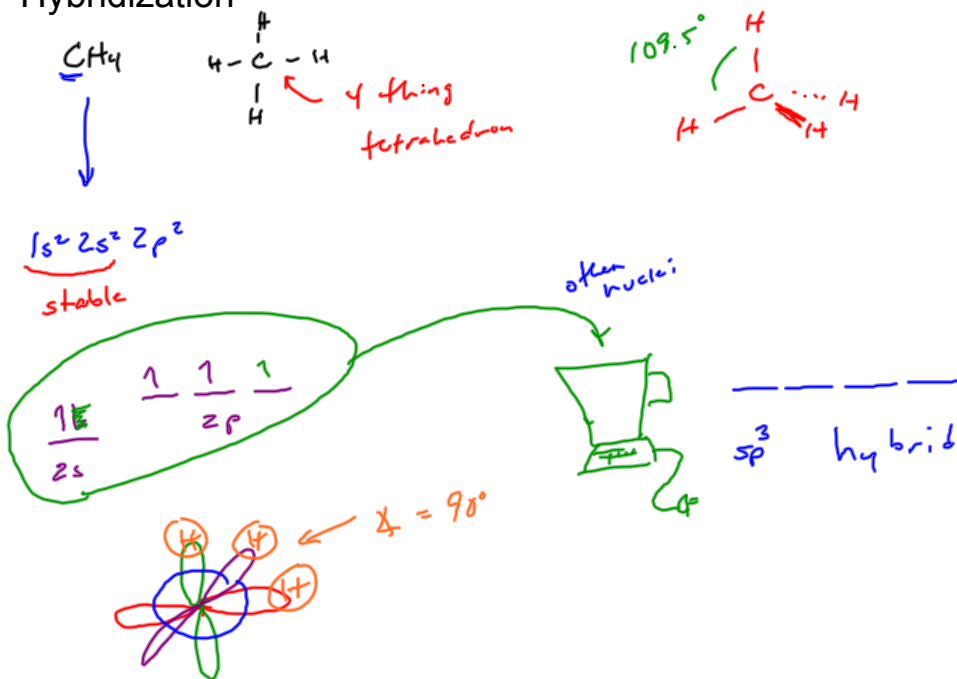
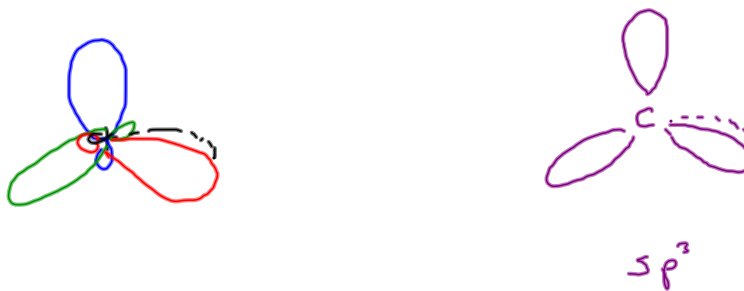
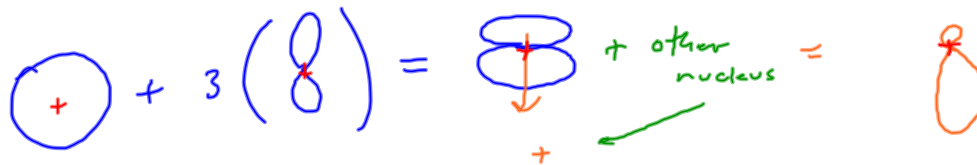


Hybridization



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What hybrids look like



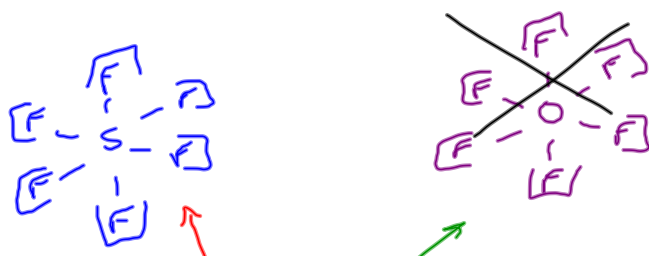
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of things and hybridization

- 4 things \rightarrow 4 orbitals $\rightarrow s, p_x, p_y, p_z = sp^3$
- 3 things \rightarrow 3 " $\rightarrow s, p, p = sp^2$
trigonal planar
- 2 things \rightarrow 2 " $\rightarrow s, p = sp$ linear
- 5 things \rightarrow 5 " $\rightarrow s, p, p, p, d = sp^3d$
trigonal bipyramid
- 6 " \rightarrow 6 " $\rightarrow sp^3d^2$ octahedron

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SF₆ vs. ~~OF₆~~ does not exist

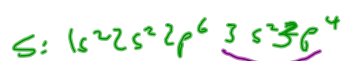


6 things
octahedron
 sp^3d^2



valence = 2

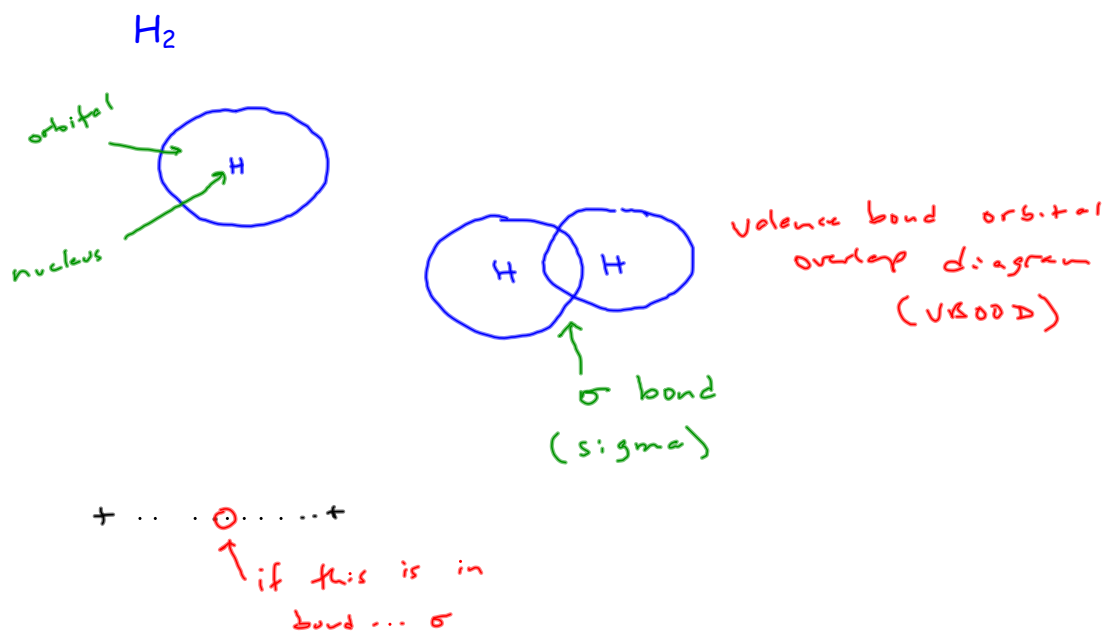
no d orbital



valence = 3 (s, p, d)

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Valence Bond Theory \rightarrow bond = overlapping orbitals



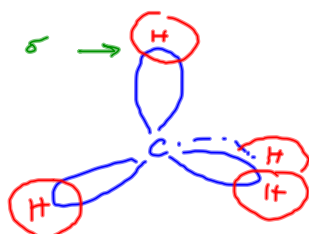
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Valence Bond Theory

CH_4

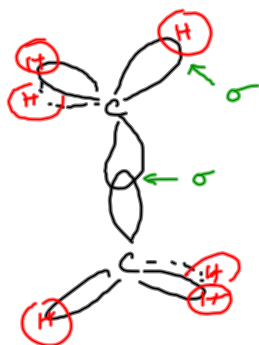
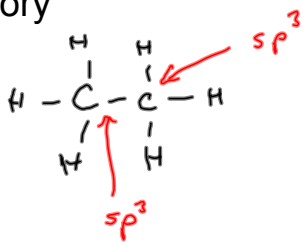
① LBS

② hybridization



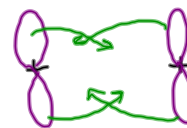
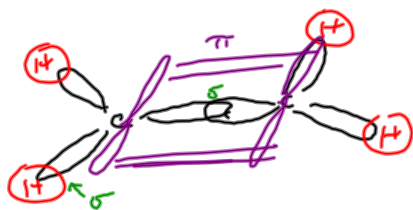
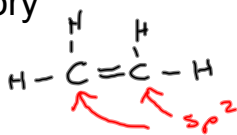
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Valence Bond Theory



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Valence Bond Theory



$\sim 90^\circ$



π bond

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